Claims:

1. An apparatus comprising:

a power converter;

said power converter including a charge pump capacitor, said charge pump capacitor coupled in said converter so as to drive a primary of an isolation transformer without signal rectification.

2. The apparatus of claim 1, wherein said charge pump capacitor is coupled to drive the primary of an isolation transformer without signal rectification at least in part by being adapted to switch between charging and discharging operation at different portions of a current cycle.

3. The apparatus of 2, wherein said charge pump capacitor is further adapted to switch between charging and discharging operation at or substantially near zero current.

4. The apparatus of claim 1, wherein said power converter is incorporated on a motherboard.

5. The apparatus of claim 1, wherein said power converter is coupled to a DC power consuming device.

6. The apparatus of claim 5, wherein said DC power consuming device comprises at least one of a fax, printer, scanner, and copier.

7. The apparatus of claim 1, wherein said power converter comprises an AC-DC power converter.

8. The apparatus of claim 7, wherein said power converter includes an input pi filter.

9. The apparatus of claim 7, wherein a secondary of said isolation transformer is coupled in a circuit to perform full-wave rectification.

10. The apparatus of claim 1, wherein said primary of said isolation transformer is coupled so as to resonate during operation.

11. A circuit comprising:

a power converter;

said power converter comprising at least two transistor totem-pole configurations; one of said configurations coupled to an AC line and another of said configurations coupled to an AC neutral; a pump capacitance device coupled between said configurations to drive a primary of an isolation transformer.

12. The circuit of claim 11, wherein said isolation transformer is coupled in said power converter to form a series fed, resonant, isolation transformer.

13. The circuit of claim 11, wherein said transistor configurations are coupled in said converter so to yield a power transfer that is substantially a linear function of switching frequency.

14. The circuit of claim 11, wherein said transistor configurations are coupled in said converter so as to turn at least some of the transistors of said configurations on at substantially zero current.

15. The circuit of claim 14, wherein said transistor configurations are coupled in said converter so as to turn at least some of said transistors of said configurations off at substantially zero current.

16. The circuit of claim 15, wherein said transistor configurations are coupled in said converter so as to turn all of said transistors of said configurations on and/or off at substantially zero current.

17. The circuit of claim 11, wherein at least one of said transistors comprises a MOSFET.

18. The circuit of claim 11, wherein said pump capacitive device comprises a capacitor.

19. The circuit of claim 11, wherein said power converter is incorporated into a motherboard.

20. The circuit of claim 1, wherein said power converter is coupled to a DC power consuming device.

21. The circuit of claim 20, wherein said DC power consuming device comprises at least one of a fax, printer, scanner, and copier.

22. The circuit of claim 11, wherein said power converter comprises an AC-DC converter.

23. The circuit of claim 11, wherein said power converter includes an input pi filter.

24. The circuit of claim 11, wherein a secondary of said power converter is coupled so as to provide full wave rectification.

25. A method of converting power comprising:

charging an electrical storage element during a portion of a cycle so that current is provided by said electrical storage element during another portion of the cycle without rectification.

26. The method of claim 25, wherein said electrical storage element is charged during resonant operation of a primary circuit of an isolation transformer.

27. The method of claim 25, wherein charging and discharging of said electrical storage element switches at substantially zero current.

28 The method of claim 27, wherein transistor configurations are employed to accomplish the switching.

29 The method of claim 28, wherein said transistor configurations include MOSFETs arranged in a totem pole configuration.

30. The method of claim 28, wherein power is converted as substantially a linear function of switching frequency.

31. The method of claim 25, wherein said electrical storage element comprises a charge pump capacitor.

32. The method of claim 25, wherein feedback is employed for synchronization between an applied input voltage signal and an output voltage signal.

33. The method of claim 25, wherein converting power comprises AC to DC conversion.

34. A system comprising:

a DC power consuming device and an AC-DC power converter;

said power converter including a charge pump capacitor, said charge pump capacitor coupled in said converter so as to drive a primary of an isolation transformer without signal rectification.

35. The system of claim 34, wherein said charge pump capacitor is coupled to drive the primary of an isolation transformer without signal rectification at least in part by being adapted to switch between charging and discharging operation at different portions of a current cycle.

36. The system of 35, wherein said charge pump capacitor is further adapted to switch between charging and discharging operation at or substantially near zero current.

37. The system of claim 34, wherein said power converter is incorporated on a motherboard with said DC power consuming device.

38. The system of claim 34, wherein said DC power consuming device comprises at least one of a fax, a printer, a scanner and a copier.

39. The system of claim 34, wherein said power converter comprises an AC-DC power converter.

40. The system of claim 39, wherein said power converter includes an input pi filter.

41. The system of claim 39, wherein a secondary of said isolation transformer is coupled in a circuit to perform full-wave rectification.

42. The system of claim 34, wherein said primary of said isolation transformer is coupled so as to resonate during operation.

43. An apparatus comprising:

means for converting from an AC voltage to a DC voltage;

said means for converting including a means for isolation , said means for isolation including a primary and a secondary;

said means for converting being coupled so that, in operation, AC to DC voltage rectification does not occur on the primary side of said means for isolation.

44. The apparatus of claim 43, wherein said means for converting is coupled to drive the primary of said means for isolation without signal rectification at least in part by being adapted to switch between charging and discharging operation at different portions of a current cycle.

45. The apparatus of 44, wherein said means for converting includes a charge pump capacitor, said capacitor being further adapted to switch between charging and discharging operation at or substantially near zero current.

46. The apparatus of claim 43, wherein said means for converting is incorporated on a motherboard.

47. The apparatus of claim 43, wherein said means for converting is coupled to a DC power consuming device.

48. The apparatus of claim 47, wherein said DC power consuming device comprises at least one of a fax, printer, scanner, and copier.

49. The apparatus of claim 43, wherein said means for converting comprises an AC-DC power converter.

50. The apparatus of claim 49, wherein said power converter includes an input pi filter.

51. The apparatus of claim 49, wherein the secondary of said means for isolation is coupled in a circuit to perform full-wave rectification.

52. The apparatus of claim 43, wherein said primary of said means for isolation is coupled so as to resonate during operation.